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[19]

Langley

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11/11/99**[54] SEMICONDUCTOR DEVICE WITH IMPROVED BOND PADS****[75] Inventor:** Rodney C. Langley, Boise, Id.**[73] Assignee:** Micron Technology, Inc., Boise, Id.**[21] Appl. No.:** 577,911**[22] Filed:** Dec. 21, 1995**[51] Int. CL<sup>6</sup>** ..... H01L 23/48**[52] U.S. Cl.** ..... 257/775; 257/784; 257/786**[58] Field of Search** ..... 257/786, 760,  
257/775, 784, 766, 780**[56] References Cited****U.S. PATENT DOCUMENTS**

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A semiconductor device with improved bond pads. The semiconductor device includes bond pads electrically connected to an active circuit in the device and openings formed in the bonding surface of the bond pads. The opening(s) may include recesses extending partially into the bonding surface or channels that extend entirely through the bond pads. Various shapes and configurations of the openings may be used, such as a pattern of channels radiating from the center of the bonding surface, a series of spaced apart rectangular channels arranged parallel to one another, an array of L shaped channels arranged around the center of the bonding surface, or an array of holes.

16 Claims, 5 Drawing Sheets